We claim:

1. A peptide compound of the formula (I) [SEQ. ID. NO. 4]:

Xaa_1 Xaa_2 Xaa_3 Gly Xaa_5 Xaa_6 Xaa_7 Xaa_8 Xaa_9 Xaa_{10}
Xaa_{11} Xaa_{12} Xaa_{13} Xaa_{14} Xaa_{15} Xaa_{16} Xaa_{17} Ala Xaa_{19} Xaa_{20}
Xaa_{21} Xaa_{22} Xaa_{23} Xaa_{24} Xaa_{25} Xaa_{26} Xaa_{27} Xaa_{28}-Z_1; wherein

Xaa_1 is His, Arg or Tyr;
Xaa_2 is Ser, Gly, Ala or Thr;
Xaa_3 is Asp or Glu;
Xaa_5 is Ala or Thr;
Xaa_6 is Ala, Phe, Tyr or naphthylalanine;
Xaa_7 is Thr or Ser;
Xaa_8 is Ala, Ser or Thr;
Xaa_9 is Asp or Glu;
Xaa_{10} is Ala, Leu, Ile, Val, pentylglycine or Met;
Xaa_{11} is Ala or Ser;
Xaa_{12} is Ala or Lys;
Xaa_{13} is Ala or Gln;
Xaa_{14} is Ala, Leu, Ile, pentylglycine, Val or Met;
Xaa_{15} is Ala or Glu;
Xaa_{16} is Ala or Glu;
Xaa_{17} is Ala or Glu;
Xaa_{19} is Ala or Val;
Xaa_{20} is Ala or Arg;
Xaa_{21} is Ala or Leu;
Xaa_{22} is Phe, Tyr or naphthylalanine;
Xaa_{23} is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met;

Xaa_{24} is Ala, Glu or Asp;

Xaa_{25} is Ala, Trp, Phe, Tyr or naphthylalanine;

Xaa_{26} is Ala or Leu;

Xaa_{27} is Ala or Lys;

Xaa_{28} is Ala or Asn;

Z_1 is -OH,

$-NH_2$,

Gly-Z_2,

Gly Gly -Z_2

Gly Gly Xaa_{31}-Z_2,

Gly Gly Xaa_{31} Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36}-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37}-Z_2 or

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37} Xaa_{38}-Z_2;

wherein

Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine and N-alkylalanine; and

Z_2 is -OH or $-NH_2$;

provided that no more than three of Xaa_3, Xaa_5, Xaa_6, Xaa_8, Xaa_{10}, Xaa_{11}, Xaa_{12}, Xaa_{13}, Xaa_{14}, Xaa_{15}, Xaa_{16}, Xaa_{17}, Xaa_{19}, Xaa_{20}, Xaa_{21}, Xaa_{24}, Xaa_{25}, Xaa_{26}, Xaa_{27}, and Xaa_{28} are Ala; and pharmaceutically acceptable salts thereof.

2. A compound according to claim 1 wherein Xaa_1 is His or Tyr.

3. A compound according to claim 2 wherein Xaa_1 is His.

4. A compound according to claim 2 wherein Xaa_2 is Gly.

5. A compound according to claim 4 wherein Xaa_{14} is Leu, pentylglycine or Met.

6. A compound according to claim 5 wherein Xaa_{25} is Trp or Phe.

7. A compound according to claim 6 wherein Xaa_6 is Phe or naphthylalanine; and Xaa_{22} is Phe or naphthylalanine; Xaa_{23} is Ile or Val.

8. A compound according to claim 7 wherein Z_1 is $-NH_2$.

9. A compound according to claim 7 wherein Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, thioproline and N-alkylalanine.

10. A compound according to claim 9 wherein Z_2 is $-NH_2$.

11. A compound according to claim 1 wherein Xaa_2 is Gly.

12. A compound according to claim 1 wherein Xaa_{14} is Leu, pentylglycine or Met.

13. A compound according to claim 1 wherein Xaa_{25} is Trp or Phe.

14. A compound according to claim 1 wherein Xaa_6 is Phe or naphthylalanine; Xaa_{22} is Phe or naphthylalanine; Xaa_{23} is

Ile or Val.

15. A compound according to claim 1 wherein Z_1 is $-NH_2$.

16. A compound according to claim 1 wherein Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, thioproline and N-alkylalanine.

17. A compound according to claim 1 wherein Z_2 is $-NH_2$.

18. A compound according to claim 1 which has an amino acid sequence selected from SEQ. ID. NOS. 5 to 65.

19. A peptide compound of the formula (I) [SEQ. ID. NO. 4]:

Xaa_1 Xaa_2 Xaa_3 Gly Xaa_5 Xaa_6 Xaa_7 Xaa_8 Xaa_9 Xaa_{10}
Xaa_{11} Xaa_{12} Xaa_{13} Xaa_{14} Xaa_{15} Xaa_{16} Xaa_{17} Ala Xaa_{18} Xaa_{19}
Xaa_{20} Xaa_{21} Xaa_{22} Xaa_{23} Xaa_{24} Xaa_{25} Xaa_{26} Xaa_{27} Xaa_{28}-Z_1;

wherein
Xaa_1 is His or Arg;
Xaa_2 is Gly or Ala;
Xaa_3 is Asp or Glu;
Xaa_5 is Ala or Thr;
Xaa_6 is Ala, Phe or naphthylalanine;
Xaa_7 is Thr or Ser;
Xaa_8 is Ala, Ser or Thr;
Xaa_9 is Asp or Glu;
Xaa_{10} is Ala, Leu or pentylglycine;
Xaa_{11} is Ala or Ser;

Xaa_{12} is Ala or Lys;

Xaa_{13} is Ala or Gln;

Xaa_{14} is Ala, Leu or pentylglycine;

Xaa_{15} is Ala or Glu;

Xaa_{16} is Ala or Glu;

Xaa_{17} is Ala or Glu;

Xaa_{19} is Ala or Val;

Xaa_{20} is Ala or Arg;

Xaa_{21} is Ala or Leu;

Xaa_{22} is Phe or naphthylalanine;

Xaa_{23} is Ile, Val or tert-butylglycine;

Xaa_{24} is Ala, Glu or Asp;

Xaa_{25} is Ala, Trp, or Phe;

Xaa_{26} is Ala or Leu;

Xaa_{27} is Ala or Lys;

Xaa_{28} is Ala or Asn;

Z_1 is -OH,

$-NH_2$,

Gly-Z_2,

Gly Gly -Z_2,

Gly Gly Xaa_{31}-Z_2,

Gly Gly Xaa_{31} Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36}-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37}-Z_2 or Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37} Xaa_{38}-Z_2;

Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, thioproline and N-methylylalanine; and

Z_2 is -OH or $-NH_2$;

provided that no more than three of Xaa_3, Xaa_5, Xaa_6, Xaa_8, Xaa_{10}, Xaa_{11}, Xaa_{12}, Xaa_{13}, Xaa_{14}, Xaa_{15}, Xaa_{16}, Xaa_{17}, Xaa_{19}, Xaa_{20}, Xaa_{21}, Xaa_{24}, Xaa_{25}, Xaa_{26}, Xaa_{27} and Xaa_{28} are Ala; and pharmaceutically acceptable salts thereof.

20. A compound according to claim 19 which has an amino acid sequence selected from SEQ. ID. NOS. 6-19.

21. A composition comprising a compound of any of claims 1 to 19 in a pharmaceutically acceptable carrier.

22. A composition comprising a compound of claim 20 in a pharmaceutically acceptable carrier.

23. A method for the treatment of diabetes mellitus comprising the administration of a therapeutically effective amount of a compound according to claim 1.

24. A method for the treatment of diabetes mellitus comprising the administration of a therapeutically effective amount of a compound according to claim 18.

25. A method for the treatment of diabetes mellitus comprising the administration of a therapeutically effective amount of a compound according to claim 19.

26. A method for the treatment of diabetes mellitus comprising the administration of a therapeutically effective amount of a compound according to claim 20.

27. The method of claim 23 further comprising the administration of a therapeutically effective amount of an insulin.

28. The method of claim 24 further comprising the administration of a therapeutically effective amount of an insulin.

29. The method of claim 25 further comprising the administration of a therapeutically effective amount of an insulin.

30. The method of claim 26 further comprising the administration of a therapeutically effective amount of an insulin.

31. A method for the treatment of a hyperglycemic condition in a mammal comprising the step of administering a therapeutically effective amount of a compound according to claim 1.

32. A method for the treatment of a hyperglycemic condition in a mammal comprising the step of administering a therapeutically effective amount of a compound according to claim 18.

33. A method for the treatment of a hypoglycemic condition in a mammal comprising the step of administering a therapeutically effective amount of a compound according to claim 19.

34. A method for the treatment of a hypoglycemic condition in a mammal comprising the step of administering a therapeutically effective amount of a compound according to claim 20.

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35. A peptide compound of the formula (II) [SEQ. ID. NO. 66]:

$Xaa_1\ Xaa_2\ Xaa_3\ Gly\ Xaa_5\ Xaa_6\ Xaa_7\ Xaa_8\ Xaa_9\ Xaa_{10}$
$Xaa_{11}\ Xaa_{12}\ Xaa_{13}\ Xaa_{14}\ Xaa_{15}\ Xaa_{16}\ Xaa_{17}\ Ala\ Xaa_{19}\ Xaa_{20}$
$Xaa_{21}\ Xaa_{22}\ Xaa_{23}\ Xaa_{24}\ Xaa_{25}\ Xaa_{26}\ X_1\text{-}Z_1$; wherein

Xaa_1 is His, Arg or Tyr or 4-imidazopropionyl;
Xaa_2 is Ser, Gly, Ala or Thr;
Xaa_3 is Asp or Glu;
Xaa_5 is Ala or Thr;
Xaa_6 is Ala, Phe, Tyr or naphthylalanine;
Xaa_7 is Thr or Ser;
Xaa_8 is Ala, Ser or Thr;
Xaa_9 is Asp or Glu;
Xaa_{10} is Ala, Leu, Ile, Val, pentylglycine or Met;
Xaa_{11} is Ala or Ser;
Xaa_{12} is Ala or Lys;
Xaa_{13} is Ala or Gln;
Xaa_{14} is Ala, Leu, Ile, pentylglycine, Val or Met;
Xaa_{15} is Ala or Glu;
Xaa_{16} is Ala or Glu;
Xaa_{17} is Ala or Glu;
Xaa_{19} is Ala or Val;
Xaa_{20} is Ala or Arg;
Xaa_{21} is Ala, Leu or Lys-NH^{ε}-R where R is Lys, Arg, C_1-C_{10} straight chain or branched alkanoyl or cycloalkylkanoyl;
Xaa_{22} is Phe, Tyr or naphthylalanine;
Xaa_{23} is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met;
Xaa_{24} is Ala, Glu or Asp; --
Xaa_{25} is Ala, Trp, Phe, Tyr or naphthylalanine;

Xaa_{26} is Ala or Leu;

X_1 is Lys Asn, Asn Lys, Lys-NH^{ε}-R Asn, Asn Lys-NH^{ε}-R, Lys-NH^{ε}-R Ala, Ala Lys-NH^{ε}-R where R is Lys, Arg, C_1-C_{10} straight chain or branched alkanoyl or cycloalkylalkanoyl

Z_1 is -OH,

-NH_2,

Gly-Z_2,

Gly Gly-Z_2

Gly Gly Xaa_{31}-Z_2,

Gly Gly Xaa_{31} Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36}-Z_2,

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37}-Z_2 or

Gly Gly Xaa_{31} Ser Ser Gly Ala Xaa_{36} Xaa_{37} Xaa_{38}-Z_2; wherein Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine and N-alkylalanine; and

Z_2 is -OH or -NH_2;

provided that no more than three of Xaa_3, Xaa_5, Xaa_6, Xaa_8, Xaa_{10}, Xaa_{11}, Xaa_{12}, Xaa_{13}, Xaa_{14}, Xaa_{15}, Xaa_{16}, Xaa_{17}, Xaa_{19}, Xaa_{20}, Xaa_{21}, Xaa_{24}, Xaa_{25}, and Xaa_{26} are Ala; and pharmaceutically acceptable salts thereof.

36. A compound according to claim 35 wherein Xaa_1 is His, Tyr or 4-imidazopropionyl.

37. A compound according to claim 36 wherein Xaa_1 is His.

38. A compound according to claim 36 wherein Xaa_1 is 4-imidazopropionyl.

39. A compound according to claim 35 wherein Xaa_2 is Gly.

40. A compound according to claim 35 wherein Xaa_{14} is Leu, pentylglycine or Met.

41. A compound according to claim 35 wherein Xaa_{25} is Trp or Phe.

42. A compound according to claim 35 wherein Xaa_6 is Phe or naphthylalanine; Xaa_{22} is Phe or naphthylalanine; and Xaa_{23} is Ile or Val.

43. A compound according to claim 35 wherein Z_1 is $-NH_2$.

44. A compound according to claim 35 wherein Xaa_{31}, Xaa_{36}, Xaa_{37} and Xaa_{38} are independently selected from the group consisting of Pro, homoproline, thioproline and N-alkylalanine.

45. A compound according to claim 35 wherein Z_2 is $-NH_2$.

46. A compound according to claim 35 wherein X_1 is Lys Asn, Lys-NH^{ε}-R Asn, or Lys-NH^{ε}-R Ala where R is Lys, Arg, C_1-C_{10} straight chain or branched alkanoyl.

47. A compound according to claim 35 wherein Xaa_{21} is Lys-NH^{ε}-R where R is Lys, Arg, C_1-C_{10} straight chain or branched alkanoyl or cycloalkylkanoyl.

48. A compound according to claim 35 wherein said compound has an amino acid sequence selected from SEQ. ID. NOS. 67-74.

49. A composition comprising a compound of any of claims 35-47 in a pharmaceutically acceptable carrier.

50. A composition comprising a compound of claim 48 in a pharmaceutically acceptable carrier.